CS300

Apogee Silicon Pyranometer

CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

The CS300 uses a silicon photovoltaic detector mounted in a cosine-corrected head to provide solar radiation measurements for solar, agricultural, meteorological, and hydrological applications. Calibrated against a Kipp & Zonen CM21 thermopile pyranometer, the CS300 accurately measures sun plus sky radiation for the spectral range of 300 to 1100 nm. Sensors calibrated to this spectral range should not be used under vegetation or artificial lights.

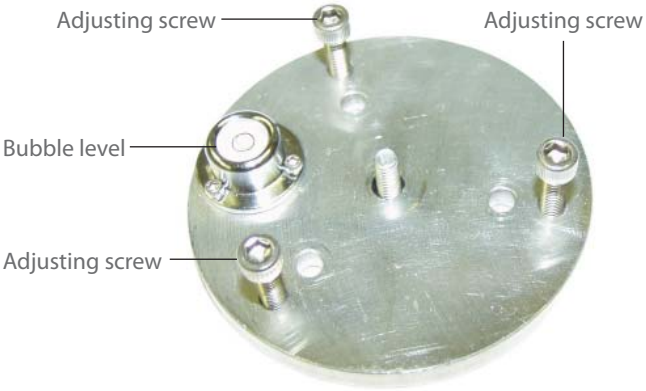
The standard output is 0.2 mV per W m^{-2}, which provides a signal of 200 mV in full sunlight (1000 W m^{-2}). All of our dataloggers, including the CR200-series, can measure this output.

Construction

The dome-shaped head prevents water from accumulating on the sensor head. To eliminate internal condensation, the sensor head is potted solid and the cable is shielded with a rugged Santoprene casing.

Sensor Mounts

Accurate measurements require the sensor to be leveled using a 18356 leveling fixture. This leveling fixture incorporates a bubble level and three adjusting screws. The 18356 mounts to a tripod or tower using the CM225 mounting stand. For most applications, Campbell Scientific recommends attaching the CM225 to a CM202, CM204, or CM206 crossarm. The CM225 can also be attached to a tripod or tower mast.



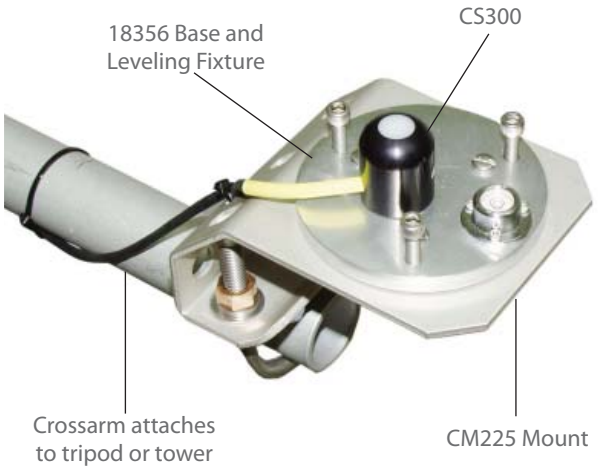
The 18356 levels the sensor in the horizontal plane, helping to ensure accurate solar radiation measurements.

Ordering Information

Silicon Pyranometer	
CS300-L	Silicon Pyranometer with user specified cable length; enter the cable length after the L. An 11-ft length (CS300-L11) is recommended for a 3-m mounting height. Must choose a cable termination option (see below).

Cable Termination Options (choose one)	
-PT	Cable terminates in stripped and tinned leads for direct connection to a datalogger's terminals.
-PW	Cable terminates in connector for attachment to a prewired enclosure.

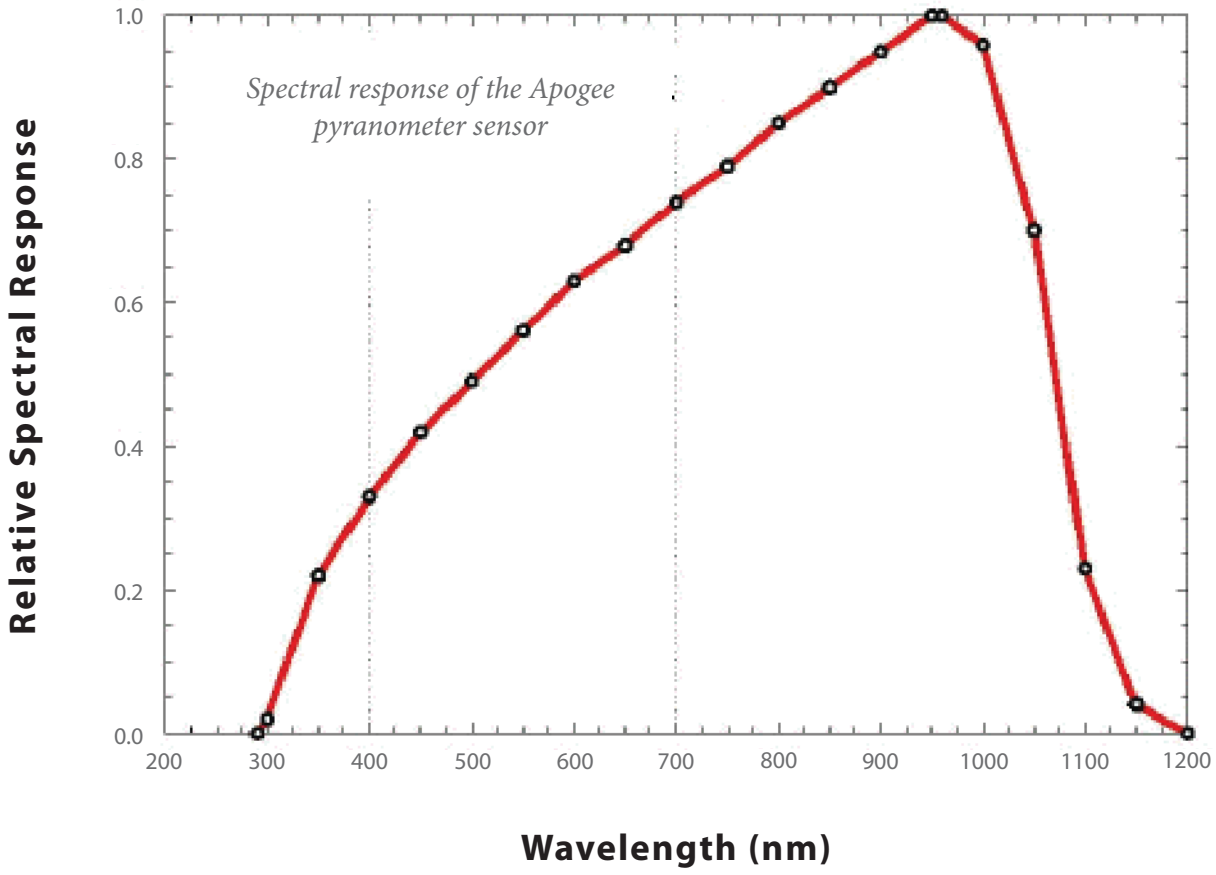
Accessories	
18356	Base and leveling fixture required to level the sensor.
CM225	Mount for attaching to the 18356 and sensor to a tripod, tower, or vertical pipe.



The typical configuration for attaching the CS300 to a tripod or tower is shown above.

Specifications

Power requirements:	none, self-powered
Absolute accuracy:	±5% for daily total radiation
Cosine response:	±4% at 75° zenith angle ±1% at 45° zenith angle
Temperature response:	<1% at 5° to 40°C
Long-term stability:	<2% per year
Operating temperature:	-40° to +55°C
Relative humidity:	0 to 100%
Output:	0.2 mV per W m^{-2}
Measurement range:	0 to 2000 W m^{-2} (full sunlight ≈ 1000 W m^{-2})
Light spectrum waveband:	300 to 1100 nm
Dimensions	
Height:	1.0 inch (2.5 cm)
Diameter:	0.9 inch (2.4 cm)
Weight:	2.3 oz (65 g) with 2 m cable length



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